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REMARKS

Upon receipt of this response, the Examiner is respectfully requested to contact the undersigned representative of the Applicant to arrange a telephone interview concerning the inventive merits of this application.

In the outstanding official action, the pending claims are rejected under various combinations of the applied art. In particular:

Claims 14-17, 27-28 and 33 are rejected, under 35 U.S.C. § 103, as being unpatentable over Kelsey, Jr. '261 (Kelsey '261) in view of FR Patent No. 28 20 495 ("French Patent '495") or alternatively in view of FR Patent No. 852 603 ("French Patent '603");

Claims 18 and 29 are rejected, under 35 U.S.C. § 103, as being unpatentable over Kelsey '261 as modified by the French Patent '495 or Kelsey '261 as modified by the French Patent '603 as applied to claims 17 or 28 above;

Claims 19-20 and 25 are rejected, under 35 U.S.C. § 103, as being unpatentable over Kelsey, Jr. '261 as modified by the French Patent '495 or Kelsey '261 as modified by the French Patent '603 as applied to claim 14 and further in view of United States Patent No. 4,450,769 to Moser (Moser '769);

Claims 21-22 are rejected, under 35 U.S.C. § 103, as being unpatentable over Kelsey, Jr. '261 as modified by the French Patent '495 or Kelsey '261 as modified by the French Patent '603 as applied to claim 14, and further in view of United States Patent No. 5,259,320 to Brooks (Brooks '320);

Claims 23 and 24 are rejected, under 35 U.S.C. § 103, as being unpatentable over Kelsey '261 as modified by the French Patent '495 and Moser '769 and Kelsey '261 as modified by the French Patent '495 and Moser '769 as applied to claim 20;

Claim 26 are rejected, under 35 U.S.C. § 103, as being unpatentable over Kelsey '261 as modified by the French Patent '495 or Kelsey '261 as modified by the French Patent '603 as applied to claim 14, and further in view of United States Patent No. 5,385,100 to Corzine et al. (Corzine '100);

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Claims 30 and 31 are rejected, under 35 U.S.C. § 103, as being unpatentable over Kelsey '261 as modified by the French Patent '495 or Kelsey '261 as modified by the French Patent '603 as applied to claim 27, and further in view of Moser '769; and

Claim 32 are rejected, under 35 U.S.C. § 103, as being unpatentable over Kelsey '261 as modified by the French Patent '495 and Kelsey '261 as modified by the French Patent '603 as applied to claim 27, and further in view of Brooks '320.

The Applicant acknowledges and respectfully traverses all of the above raised combinations of obviousness rejections in view of the newly entered claim amendments and the following remarks.

Before addressing the raised rejections, the Applicant wishes to remind the Examiner that the presently claimed invention is directed at an ammunition projectile (10, 20), for a firearm, comprising a nose (11, 21) having a leading end which is essentially conical in shape and has at least two indentations (14, 24) which each provide the following technical features and advantages:

- the indentations have the effect of providing an aerodynamic braking effect on the projectile as soon as the projectile is discharged from a muzzle end of a firearm;

- the immediate braking effect of the projectile, however, does not impact the accuracy of the trajectory of the projectile (see enclosed Diagram A);

- the projectile obtains an important speed reduction within a dangerous maximum range of the projectile;

- the projectile is also provided with an important reduction of a possible rebound of the projectile off a surface, and

- the braking effect of the projectile, as the projection passes through a soft medium of a first person, also minimizes the possibility that the same projectile could, after passing through the first person, injure a second person located along a travel path of the projectile.

The projectile design, according to the presently claimed invention, is specifically designed for use by police officers who, on many occasions, typically fire projectiles at very short distances, e.g., approximately 15 meters or so.

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The technical effects of the projectile, according to the presently claimed invention, are depicted on the enclosed trajectory curve for a 9 millimeter projectile measured by a Doppler radar (see enclosed Diagram A). Upon reviewing this Diagram, which plots radially velocity versus the slant range integration, it is readily apparent that the speed of the projectile immediately decreases as soon as the projectile exits the muzzle end of the fire arm while the trajectory of the projectile still remains stable along the entire travel path of the projectile.

Turning now to the raised rejections, some of the subject matter of claim 15 is incorporated into each one of the independent claims while claim 15 is further revised to more specifically define the profile or perimeter shape of each indentations, namely, "a perimeter of each of the at least two indentations (14, 24) comprises a curved leading portion; a curved trailing portion, a first straight edge sidewall connecting a first end of the curved leading portion with a first end of curved trailing portion and a second straight edge sidewall connecting a second end of the curved leading portion with a second end of curved trailing portion" while claim 16 recites that "a radius of curvature of the trailing portion is greater than a radius of curvature of the leading portion of each of the at least two indentations (14, 24)."

With respect to the applied art, as noted above, all of the above obviousness rejections are raised in view of various combinations of the base references of Kelsey '261, French Patent '495 and/or French Patent '603, in combination with one another and/or in combination with either Moser '769, Brooks '320 and/or Corzine '100. In view of the above claim amendments and following remarks, it is respectfully submitted that the presently claimed invention is not obvious in view of any of the above combinations of applied art.

In particular, as previously noted, Kelsey '261 relates to and discloses a projectile 10 having a plurality of curved ribs 20 defining a series of non-symmetrical spaces 17 therebetween. As shown in each of the figures of Kelsey '261 and discussed in the specification, the curved fins or ribs 20 on the tip of the bullet are intended to enhance projectile stability by imparting a spinning effect as provided by these curved ribs 20. As can be seen in Fig. 1, and imagining a plane coincident, i.e., including the central longitudinal axis of the bullet, it is believed to be readily apparent that the spaces 17 between the ribs 20 cannot properly be construed as being symmetrically disposed on either side of this plane due to the nature of the

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curved ribs 20. This is in direct opposition to the Examiner's position stated in the last three lines of page 2 to the first line of page 3 of the official action dated November 2, 2007. The projectile, according to Kelsey '261 "produces a more optimal penetration capability of the bullet into barrier, etc." (column 2, lines 48-50) and thus is further contrary to what is asserted by the Examiner on page 3, lines 4 - 7 of the official action. In direct contradiction to this, the claimed projectile of the present invention, during its trajectory, "is sufficiently slowed so as to diminish penetration of the projectile into a soft medium without significantly altering a trajectory precision of the projectile". (Emphasis added.) The Applicant carefully reviewed Kelsey '621 column 2, lines 45-63 (cited by the Examiner on page 3, line 7), as well as the remainder of this citation, and fails to see any teaching, suggestion, disclosure, motivation or anything else therein which would lead one skill in that art to attempt to arrive at the presently claimed features of the present invention. That is, the disclosure and teachings of Kelsey '621 clearly teach away from the presently claimed limitation of slowing of the projectile so as to diminish penetration of the projectile into a soft medium. Moreover, the overall structure of Kelsey '621, as disclosed, is completely different from the presently claimed invention.

Turning now to the disclosure of French Patent '495, this reference arguably relates to a projectile 1 having symmetrical indentations 6. Each of these indentations 6 extends from a point end located adjacent the tip of the nose 3 toward a trailing portion remote from the leading end of the nose 3. The profile of the indentations 6 is defined by lines formed by the intersection of the surface of the nose 3 and the surfaces of the indentation 6. As shown in Fig. 1 of the French Patent '495, the profile of the indentation 6 is generally in the form of a triangle. The generally triangular profile has two lateral sides generally extending from a point near the tip of the nose 3 to two opposite ends of a straight line—not curved—base 8 that extends normal to an axial center line. The indentations 6 in this projectile are formed by three planar surfaces which defines a central edge or corner. With indentations as specifically taught and disclosed by the French Patent '495, it is respectfully submitted that the edges and corners formed in the indentations, during flight of the projectile, would be substantially destabilized and this, in turn, would compromise the accuracy of the trajectory.

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With respect to French Patent '603, this reference is more specifically directed at a bomb which would explode on impact rather than a projectile which, during its trajectory through air, is sufficiently slowed so as to diminish penetration of the projectile into a soft medium without significantly altering a trajectory precision of the projectile, as currently claimed. Further, the specifically disclosed arrangement of the indentations is quite different from the presently claimed invention.

There are many differences between claims of the application and the bomb as taught and disclosed by French Patent '603. The bomb 1 has three different sections 2, 3, 4. The first section 3 is the "avant" or front part, which is the leading portion of the bomb as it falls through the air. The second section 2 is a "grande" or large portion and the third section 4 is the "arriere" or back/rear section, which follows the first and second sections as the bomb falls through the air. The indentations 11 of the bomb 1 are located on the third rear trailing section 4 of the bomb 1 to induce rotation of the bomb (see the drawings as well as page 1, lines 53-58; page 2, lines 30-34, for example) and not to slow the projectile so as to diminish penetration of the projectile into a soft medium.

For the sake of argument, even if the indentations 11 were deemed to be located on the leading face of the bomb 1—which they are clearly not—the shapes of the indentations 11 are vastly different than the indentations of the projectile as presently claimed. The indentations 11 of French Patent '603 Fig. 1 have a profile formed by two lines that are formed along the intersection of substantially flat surfaces of the indentation 11 (as shown in Fig. 2) and the surface of the rear portion of the bomb 1. These profile lines extend axially from a first leading point to a second trailing point, such that the profile of the indentations 11 is similar to that of the outline of the bomb 1, they are elongate and extend between two sharp pointed ends and thus does not disclose a "curved trailing portion," as presently claimed.

The Applicant respectfully submits that none of the teachings, suggestions, disclosures and/or motivations of Kelsey '261, French Patent '495 and French Patent '603, either alone or in any permissible combination with one another, would lead one skilled in the art to the above discussed limitations and features of the indentations of the presently claimed invention. That is, there is no teaching or motivation of a projectile having indentations with a profile which is

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formed by the intersection of a single surface of the indentation and the surface of the nose and which is symmetrical in relation to a longitudinal axial plane that is coincident with the central longitudinal axis of the projectile. Further, the applied references do not, in any way, teach, suggest, disclose or remotely hint at an indentation having a profile or a perimeter which has a curved trailing portion and a pair of straight sidewalls, as presently recited, let alone the more specific indentation shape recited in claims 27 and 33 such that the profile has a generally teardrop configuration or shape.

In order to emphasize the above noted distinctions between the presently claimed invention and the applied art, independent claim 15 of this application now recites the feature of "a trailing portion of each of the at least two indentations (14, 24) is curved and a portion of each opposed sidewall is straight and tapers toward a leading portion of the indentation" while independent claims 27 and 33 both recite "a perimeter of each of the at least two indentations (14, 24) comprises a curved leading portion, a curved trailing portion, a first straight edge sidewall connecting a first end of the curved leading portion with a first end of curved trailing portion and a second straight edge sidewall connecting a second end of the curved leading portion with a second end of curved trailing portion" while claim 16 recites that "a radius of curvature of the trailing portion is greater than a radius of curvature of the leading portion of each of the at least two indentations (14, 24)". Such features are believed to clearly and patentably distinguish the presently claimed invention from all of the art of record, including the applied art.

The Applicant acknowledges that the additional references of Moser '769, Brooks '320 and/or Corzine et al. '100 may arguably relate to the features indicated by the Examiner in the official action. Nevertheless, the Applicant respectfully submits that the combination of the base references of Kelsey '261, French Patent '495 and/or French Patent '603 with this additional art of Moser '769, Brooks '320 and/or Corzine et al. '100 still fails to in any way teach, suggest, disclose, hint at and/or motivate so as to lead one skill in that art to the presently claimed invention. As such, all of the raised rejections should be withdrawn at this time in view of the above amendments and remarks.

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If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.


In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejections should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Kelsey, Jr. '261, French Patent '495, French Patent '603, Moser '769, Brooks '320 and/or Corzine et al. '100 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,


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